

**CLUSTERING OF RECORDED PATIENT NEUROLOGICAL ACTIVITY
TO DETERMINE LENGTH OF A NEUROLOGICAL EVENT**

ABSTRACT OF THE INVENTION

Apparatus and method detect a detection cluster that is associated with a neurological event, such as a seizure, of a nervous system disorder and update therapy parameters that are associated with a treatment therapy. The occurrence of the detection cluster is detected when the maximal ratio exceeds an intensity threshold. If the maximal ratio drops below the intensity threshold for a time interval that is less than a time threshold and subsequently rises above the intensity threshold, the subsequent time duration is considered as being associated with the detection cluster rather than being associated with a different detection cluster. Consequently, treatment of the nervous system disorder during the corresponding time period is in accordance with one detection cluster. Treatment therapy may be provided by providing electrical stimulation, drug infusion or a combination. Therapy parameters may be updated for each m^{th} successive group of applications of the treatment therapy or for each n^{th} detection cluster.